

STUDIES IN THE EUPATORIEAE (ASTERACEAE). CXVIII.

NEW SPECIES OF AGERATUM, FLEISCHMANNIA AND HEBECLINIUM
FROM NORTHERN SOUTH AMERICA.

R. M. King and H. Robinson
Smithsonian Institution, Washington, D.C. 20560.

Recent collections of Asteraceae submitted for identification by Dr. Ramon Ferreyra, Dr. Hugh H. Iltis and Dr. David B. Lellinger represent four species not previously known to science.

Ageratum iltisii R.M.King & H.Robinson, sp. nov.
Plantae herbaceae vel suffrutescentes usque ad 5 dm altae pauca ramosae. Caules teretes longe hirsuti. Folia opposita, petiolis 2-12 mm longis dense hirsutis, laminis ovatis 17-33 mm longis 10-25 mm latis margine 6-12-crenato-serratis ad apicem obtusis base rotundatis vel late cuneatis utrinque sparse longe et valde hirsutis subtus aliquantum discoloribus, glandulis indistinctis vel nullis. Folia superiora non decrescentia. Inflorescentiae subcymosae multiramosae, ramis ultimis dense corymbosis, pedicellis 1-5 mm longis sparse hirsutis. Capitula ca. 4 mm alta 3 mm lata; squamae involucri ca. 20-25 eximbricatae vel subimbricatae ca. 2 mm longae subaequilongae 2-3-seriatae oblongo-lanceolatae rigide papyraceae ad apicem abrupte anguste acuminatae margine parce serratae vel fimbriatae extus striatae sparse piliferae; receptacula conica ebractifera. Flores ca. 50-55; corollae ca. 1.8 mm longae anguste infundibulares inferne glanduliferae, lobis aequilateraliter triangularibus intus leniter papillosis extus parce piliferis ad apicem papillosis; filamenta antherarum in parte superiore ca. 190 μ longa; thecae ca. 3.5 mm longae, appendicibus ovatis non longioribus quam latioribus; appendices stylorum filiformes dense leniter papillosae. Achaenia glabra ca. 1.5 mm longa; pappus coroniformi vel breviter squamiformi ca. 100 μ longi lacerati. Grana pollinis ca. 22 μ diam.

Type: ECUADOR: Province Zamora-Chinchiipe, along road to Zamora from Loja, elevation ca. 1700 meters. Lat. S. 4° 0' 30", Long. W. 78° 11' 90". Eastern slopes of the Andes in Southern Ecuador. Very moist low montane

Forest; many epiphytes; old trees 100 ft. tall or more. Pasture herb with blue flowers. May 8, 1965. Dennis H. Knight 177 (Holotype US!)

The genus is most richly represented in Central America and the South American species tend to possess more unusual features such as symmetrical carpodia or smoother stylar appendages. The new species is more typical in those characters but is unusual in the seeming lack of glands on the leaves. The species belongs to the section Coelestina. The hirsute leaves and sparsely pilose papery phyllaries are among the distinctive characters.

Fleischmannia ferreyrii R.M.King & H.Robinson, sp. nov. Plantae herbaceae erectae usque ad ca. 7 dm altae pauce ramosae. Caules teretes sparse puberuli. Folia opposita, petiolis 2-4 mm longis, laminis ovatis 10-18 mm longis 5-10 mm latis infirme trinervatis margine 6-11 crenato-serrulatis ad apicem breviter acutis base subtruncatis supra coriaceis longe puberulis subtus discoloribus hirsutis. Folia superiora plerumque minuta. Inflorescentiae subcymosae, pedicellis ultimis 3-8 mm longis puberulis. Capitula ca. 6 mm alta 5-6 mm lata; squamae involucri ca. 25 subimbricatae 3-4-seriatae inaequilongae 2-4 mm longae usque ad 1 mm latae plerumque oblongae ad apicem obtuse acutae vel interiores late rotundatae extus parce puberulae interiores leniter bicostatae. Flores ca. 27; corollae ca. 3 mm longae anguste infundibulares, lobis breviter triangularibus vix longioribus quam latioribus extus dense hirsutis non glanduliferis; filamenta antherarum in parte superiore ca. 300 μ longa, thecae ca. 0.9 mm longae base rotundatae, appendicibus late oblongis vix longioribus quam latioribus; achaenia ca. 1.7 mm longa setifera; setae pappi 25-30 subfragiles tenues, cellulis apicalibus non inflatis argute acutis. Grana pollinis ca. 22 μ diam.

Type: Peru: Huanuco: Ambo: Viroy y Quebrada Huertas. Altitude 2100-2200 meters. Flores blanco-lilacinas. Habitat monte bajo en ladera. Junio 24, 1953. Ramon Ferreyra 9494a (Holotype US!).

Like the following F. lellingeri in the ovate short-petiolate leaves and the very blunt inner phyllaries. Both species tend to have rather lax cymes with only reduced leaves near the inflorescence.

The present species differs obviously by the larger size of the plant and all its parts, by the larger number of flowers per head and by the more numerous and more fragile pappus setae. The leaves are also much more prominently pubescent beneath the hairs of the stems are longer and sparser.

Fleischmannia lellingeri R.M.King & H.Robinson, sp. nov. Plantae herbaceae erectae usque ad 2 dm altae base multo ramosae. Caules teretes dense breviter puberuli. Folia opposita, petiolis 2-5 mm longis, laminis ovatis 6-12 mm longis 3-8 mm latis infirme trinervatis margine 2-6 crenato-serrulatis ad apicem obtusis base rotundatis vel late cuneatis utrinque minute puberulis subtus discoloribus subpunctatis. Folia superiora plerumque minuta. Inflorescentiae subcymosae, pedicellis ultimis 1-3 mm longis puberulis. Capitula ca. 5 mm alta 2-3 mm lata; squamae involucri ca. 20 subimbricatae triseriatae inaequilongae 1-3 mm longae usque ad 1 mm latae late ellipticae vel anguste oblongae ad apicem obtuse acutae vel interiores late rotundatae extus parce puberulae interiores valde bicostatae. Flores ca. 20-22; corollae ca. 2 mm longae anguste infundibulares, lobis breviter triangularibus extus hirsutis non glanduliferis; filamenta antherarum in parte superiore ca. 250 μ longa, thecae ca. 0.4 mm longae base rotundatae, appendicibus late ovatis non longioribus quam latioribus; achaenia ca. 1.5 mm longa setifera; setae pappi ca. 18 non fragiles tenues base aliquantum latiores, cellulis apicalibus non inflatis argute acutis. Grana pollinis ca. 18 μ diam.

Type: Colombia: Choco: Flat area behind the beach ca. 0.5-1.5 km NW of El Valle, N of the lagoon. Beach and disturbed and grazed area of sandy soil. Elevation 0-5 m. Common; epipetric on lava. Flowers violet. 13 February 1971. D.B. Lellinger & E.R. de La Sota 337 (Holotype US!).

Hebeclinium lellingeri R.M.King & H.Robinson, sp. nov. Plantae suffrutescens vel scandentes ultra 6 dm altae non vel paucè ramosae. Caules teretes nigrescentes vix sparse puberuli. Folia opposita, petiolis 6-10 mm longis, laminis anguste ellipticis 4-10 cm longis 13-35 mm latis margine remote serrulatis ad apicem breviter anguste acuminatis base breviter anguste cuneatis subtus minute

puberulis, nervis pinnatis. Inflorescentiae paniculatae, ramis recte patentibus, pedicellis 1-5 mm longis dense puberulis. Capitula ca. 6 mm alta 3-4 mm lata; squamae involucris ca. 35-40 subimbricatae ca. 5-seriatae valde inaequilongae 1-4 mm longae 0.8 mm latae oblongae vel oblongo-lineares ad apicem rotundatae margine minute fimbriatae extus plerumque 2-3-costatae glabrae; receptacula hemisphaerica glabra dense scleroidea. Flores ca. 22-25; corollae ca. 3 mm longae anguste infundibulares lavandulae inferne et intus glabrae, lobis breviter triangularibus parum longioribus quam latioribus extus glanduliferis et piliferis; filamenta in parte superiore ca. 300 μ longa; thecae ca. 0.9 mm longae, appendicibus oblongo-ovatis ca. 200 μ longis 150 μ latis; appendices stylorum tenuiter filiformes dense leniter papillosae. Achaenia ca. 2 mm longa pauca setifera et glandulifera; carpodia aliquantum asymmetrica indistincta; setae pappi 30-35 ad apicem leniter distincte clavatae. Grana pollinis ca. 22 μ diam.

Type: COLOMBIA: Choco: NW side of Alto del Buey, trail along ridge from the confluence of the forks of the Rio Mutata above the Rio Dos Bocas to the top of Alto del Buey. Primary mossy montane forest. Elevation 1450-1750 m. Occasional vine; flowers pale lilac, almost white. 9 February 1971. D.B. Lellinger & E.R. de La Sota 223 (Holotype US!).

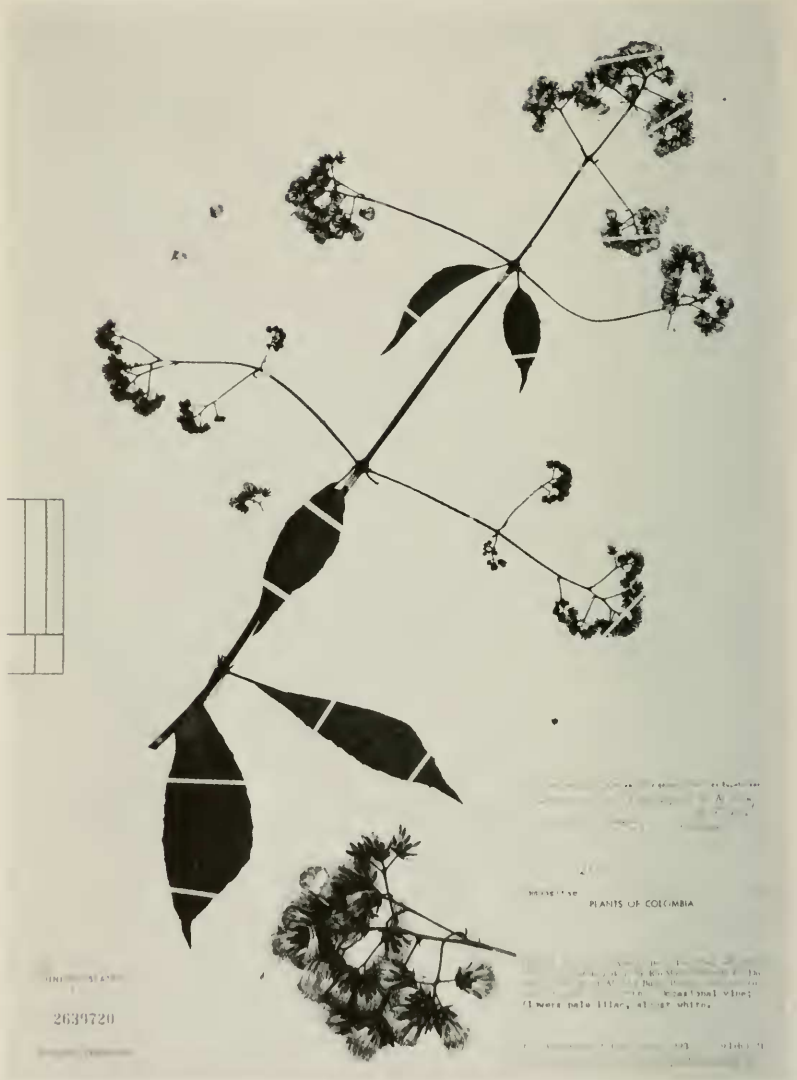
The species would key to H. phoenicticum in the early key provided for the group (King & Robinson, 1969). From this and the related H. reedii the new species is distinct by the more glabrous and smooth leaves and by the rather unusual glabrous receptacle. The narrow leaves and glabrous receptacle seem most like H. hylophorum (B.L. Robinson) R.M. King & H. Robinson of Peru but the latter has narrower tipped inner phyllaries, densely puberulous stems, and more glandular leaf undersurfaces.

Reference

- King, R.M. & H. Robinson. 1969. Studies in the Compositae-Eupatorieae, IX. A review of the genus Eupatorium section Hebeclinium in Colombia. Sida 3(5): 321-326.



Ageratum iltisii R.M.King & H.Robinson, n. sp.
Holotype and enlargement of heads. Photos by V.E.
Krantz, Staff Photographer, National Museum of Natural
History.



Hebeclinium lellingeri R.M.King & H.Robinson,
 n. sp. Holotype and enlargements of heads.

STUDIES IN THE EUPATORIEAE (ASTERACEAE). CXIX.
ADDITIONS TO THE GENERA CRONQUISTIANTHUS, HELOGYNE
AND NEOCUATRECASIA FROM PERU

R. M. King and H. Robinson
Smithsonian Institution, Washington, D.C. 20560.

The following new species were among collections recently sent to us by Dr. Ramon Ferreyra, Director, Museo de Historia Natural, Universidad Nacional Mayor de San Marcos in Lima, Peru.

Cronquistianthus ferreyrii R.M.King & H.Robinson, sp. nov. Plantae frutescentes usque ad 5 dm altae multo ramosae obscure canescentes, caules folia et involucri squamae exteriores dense breviter puberulae, pili rigidi antrorse appressi. Folia opposita subsessilia, petiolis indistinctis 1-2 mm longis, laminis elliptico-lanceolatis 12-17 mm longis 3-5 mm latis obscure trinervatis integris ad apicem breviter acutis base cuneatis. Inflorescentiae in corymbis densis numerosis, pedicellis 1-2 mm longis. Capitula 7-8 mm alta 4-5 mm lata; squamae involucri 25-30 imbricatae 4-5-seriatae valde inaequilongae 1-5 mm longae plerumque 1.2-1.5 mm latae late ovatae vel oblongae ad apicem late rotundatae margine breviter fimbriatae late scariosae extus in mediis dense puberulae. Flores 15-18; corollae ca. 4.5 mm longae tubulares vel anguste infundibulares violaceae inferne et intus glabrae, lobis ovatis parum longioribus quam latioribus extus dense glanduliferis; filamenta antherarum in parte inferiore subnulla parte superiore ca. 300 μ longa; thecae ca. 1.5 mm longae; appendicibus oblongo-ovatis parum longioribus quam latioribus; appendices stylium late lineares ad apicem non nodosae. Achaenia ca. 2 mm longa profuse breviter setifera; carpodia asymmetrica valde distincta, cellulis subquadratis 10-12-seriatis; setae pappi ca. 25 ad apicem sensim angustiores. Grana pollinis ca. 25 μ diam.

Type:PERU: Cajamarca: Celendin: Entre Celendin y Balsas, bajando al rio Maranon. Flores violaceas. arbusto. Habitat monte bajo. Altitud 3000-3100 m

Agosto 7, 1958. Ramon Ferreyra 13293 (Holotype US!, Isotype US!). Additional specimen: PERU: Cajamarca: Celendin: Canyon of the Rio Maranon above Balsas, 3-4 km. below summit of the road to Celendin. Altitude 2950 m. 21 May 1964. Paul C. Hutchison & J. Kenneth Wright 5247 (US!).

The species is closest to C. chamaedrifolium of northern Peru and southern Ecuador. The new species differs by the smaller narrow leaves, the dense appressed pubescence on stems and leaves and the pubescence on the outer surfaces of the phyllaries. In C. chamaedrifolium the leaves are ovate, the hairs of the stems and leaves are finer and more spreading and the phyllaries are glabrous on the outer surface.

The following species must be added to the genus Cronquistianthus.

Cronquistianthus marrubiifolius (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium marrubiifolium Hieron., Engl. Jahrb. 36: 466. 1905. Peru.

Helogyne ferreyrii R.M.King & H.Robinson, sp. nov. Plantae frutescentes usque ad 5 dm altae multo ramosae. Caules teretes dense puberuli. Folia opposita vel alternata subsessilia, petiolis 0.5-1.0 mm longis, laminis ellipticis 5-10 mm longis 2-4 mm latis trinerviatis integris ad apicem obtuse acutis base breviter cuneatis utrinque puberulis et glanduliferis. Inflorescentiae diffusae subcymosae. Capitula terminalia et in ramis lateralibus ca. 12 mm alta 7-10 mm latae; squamae involucri 25-30 imbricatae ca. 4-seriatae valde inaequilongae 2-7 mm longae ca. 2 mm latae oblongae ad apicem late rotundatae breviter mucronatae margine vix fimbriatae vel laciniatae extus puberulae pauca striatae; receptacula leniter convexa vix puberula. Flores ca. 15-18; corollae 7-8 mm longae anguste infundibulares purpurascens extus profuse glanduliferae intus glabrae, lobis ovatis $1\frac{1}{2}$ longioribus quam latioribus laevibus; filamenta in parte superiore indistincta ca. 250 μ longa; thecae ca. 2 mm longae, appendicibus oblongis ca. 500 μ longis 250 μ latis; appendices stylorum valde longe clavatae ca. 0.45 mm latae minute leniter papillosae. Achaenia ca. 3.5 mm longa prismatica 5-6-costata setifera et glandulifera; carpodia breviter obturaculiformia distincta, cellulis ca. 8-seriatis subquadratis ca. 5

μ diam.; setae pappi ca. 30 distincte hispidae ad apicem longius densius hispidae vel subplumosae. Grana pollinis ca. 25μ diam.

Type: PERU: Lima: Infiernillo, between San Mateo and Casapalca. Altitude 3300-3400 meters. Shrub 50-60 cm flowers purple. August 8, 1949. Ramon Ferreyra 6237 (Holotype US! Isotype US!). Additional material: PERU: Lima: Infiernillo, between San Mateo and Casapalca. Altitude 3300-3400 meters. Shrub 0.60-0.80 m flowers violet. August 8, 1949. Ramon Ferreyra 6239 (2 sheets US!), Entre San Mateo i Matucana, carretera central, Province Huarochiri. Habitat pedregoso. Altitud 2800-2850 meters. Arbusto 0.40-0.50 m. Flores moradas. Junio 19, 1950. Ramon Ferreyra 7695 (US!), Rio Blanco, entre San Mateo y Casapalca. Habitat pedregoso, falda de cerro. Arbusto 0.80-1.0 m. Flores lilas. Marzo 25, 1950. Altitud 3500-3550 meters. Ramon Ferreyra 6982 (US!).

The new species is closest to Helogyne tacaquirense Hieron. but the latter has narrower more pointed phyllaries.

Neocuatrascasia hirtella R.M.King & H.Robinson, sp. nov. Plantae suffrutescentes usque ad 12 cm altae pauce ramosae. Caules teretes dense breviter puberuli et hirtelli. Folia opposita distincte petiolata, petiolis 2-6 mm longis, laminis triangularibus 10-25 mm longis 6-20 mm latis margine grosse crenatis ad apicem breviter vel obtuse acutis base truncatis trinervatis supra dense puberulis subtus breviter hirtellis. Inflorescentiae terminales corymbosae, pedicellis 4-7 mm longis breviter hirtellis. Capitula 8-9 mm alta 7-8 mm lata campanulata, squamae involucri ca. 12 subimbricatae 2-3-seriatae subaequilongae 4-7 mm longae late oblongae ad apicem late rotundatae margine dense breviter fimbriatae extus dense puberulae. Flores ca. 30; corollae albae 4.0-4.5 mm longae anguste infundibulares extus glanduliferae et setiferae, tubis basilariibus ca. 1 mm longis, lobis ovatis ca. 1 mm longis $1\frac{1}{2}$ longioribus quam latioribus; filamenta antherarum in parte superiore ca. 300μ longa; thecae ca. 1 mm longae, appendicibus late oblongis vel rotundatis, cellulis aliquantum ornatis; styli in parte inferiore elongata dense puberuli. Achaenia ca. 4 mm longa breviter setifera base attenuata; setae pappi ca. 30 dense hispidae base fere contiguae, cellulis apicalibus angustis acutis. Grana pollinis ca. 22μ diam.

Type: PERU: Guzco: Paucartambo. Corihuayrachina.
Habitat: en la bajada de la puna. Flores blancas,
arbusto. Altitud 3800 meters. Marzo 15, 1953.
F. Woytkowski 617 (Holotype US!).

The species has broad triangular leaves that are less lobed than N. dispar or N. lobata and more cut than the other species. The actual relationship of the species proves to be with the very differently narrow leaved N. mancoana which grows in the same area of Guzco Province in Peru. The two species are clearly marked from the others of the genus by the continuation of the haired or papillose portion of the style well above the base. The other species have hairs only in a tuft at the base. The new species is even distinct from N. mancoana in the details of the style base where the more basal hairs are denser but not as much longer.

Acknowledgement

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Cronquistianthus ferreyrii King & Robinson, Studies in the Eupatorieae, Mem. Bot. Gard. Camb. 10: 107, 1968. (Fig. 10)

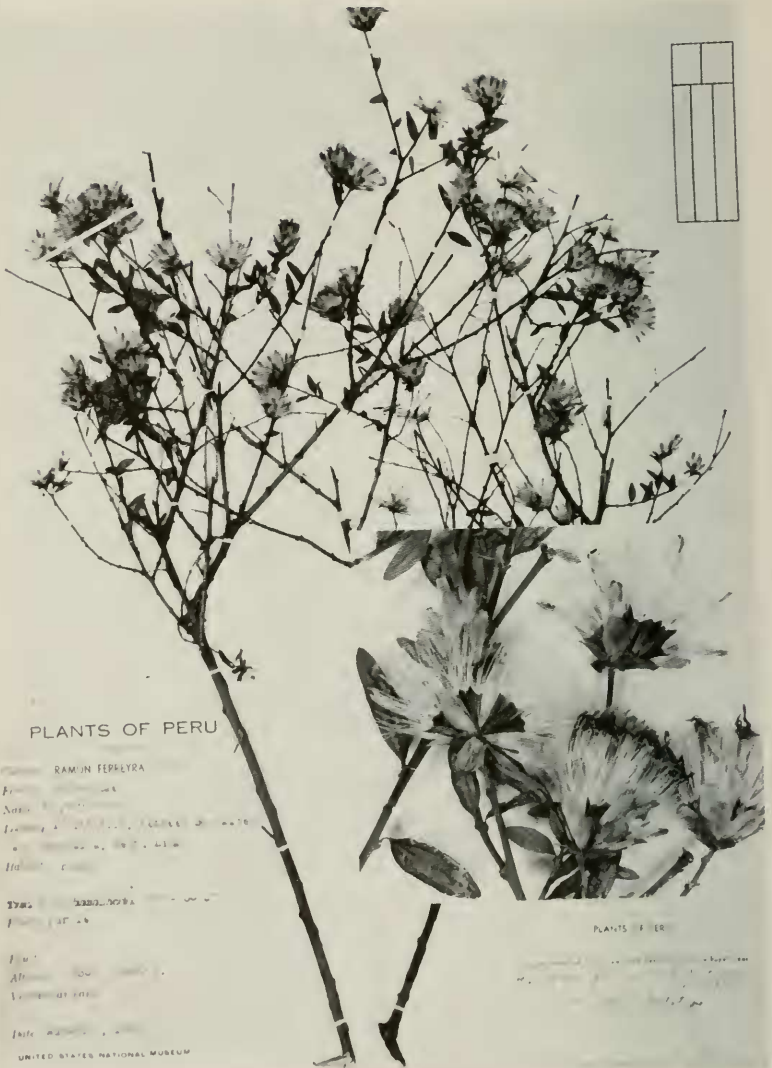
PLANTAS DEL PERU

Depto. _____ Prov. _____
 Localidad: _____
 Flores: _____
 Habitat: _____
 Fecha: _____ Altitud: _____
 N.º: _____ Det. _____
 Colector: Rosendo Ferreyra

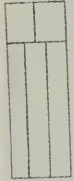
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NY FIG. 10 HERBARIUM

Cronquistianthus ferreyrii R.M.King & H.Robinson, Holotype and enlargements of heads. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



Helogyne ferreyrii R.M.King & H.Robinson, n. sp.
 Holotype and enlargements of heads.



Neocuatracasia hirtella R.M.King & H.Robinson,
n. sp. Holotype and enlargements of heads.